

RIZBERG, I.I.; TSUMANENKO, V.V.

Scientific and Technical Society of the Lkhvitsa Distilling  
Combine. Ferm. i spirt. prom. 30 no.6:38-39 '64. (MIFA 17:11)

TSUMAREV, A., general-mayor yustitsii; MUNDER, A.,.. podpolkovnik yustitsii,  
kand. yuridicheskikh nauk

Protect socialist property. Voen. vest. 43 no.9:44-48 S '63.  
(MIRA 16:10)

(Russia--Army--Supplies and stores)  
(Military offenses)

KUCHINSKIY, Yurgen; TSUMPE, Lotta

Labor laws and the exploitation of workers in capitalist countries.  
Okhr. truda i sots. strakh. 6 no.8:45-46 Ag '63. (MIRA 16:10)

TSUNDER, V.Z., inzh.

SM NII-100 moveable soil-concrete mixer. Stroi.i dor.mash. 6  
no.7:28-29 JI '61. (MIRA 14:7)  
(Mixing machinery)

ISKINOV, . .

N/S  
741.2  
.T8

Bol'shye mashin i zapasnykh chastey sel'skomu khozyaystvu (More  
Machinery And Spare Parts For Agriculture) Moskva, Moskoyskiy  
Rabochiy, 1954.

35 p.

TSUNIKOV, P.

[More machines and spare parts for agriculture] Bol'she mashin i zapasnykh chastei sel'skomu khoziaistvu. Moskva, Mosk. rabochii, 1954.  
36 p. (MLRA 8:10)

ISTRATOV, V.I.; TSUNIKOVA, N.I., red.

[Fundamental problems in algebra] Sbornik osnovnykh  
zadach po algebre. Moskva, Vses. zaochnyi energ. in-t,  
1963. 79 p. (MIRA 19:1)

TSUNTS, M.

Rasskaz o velikikh rekakh (The story of great rivers, by) M. Davydov  
i M. Tsunts. Moskva, Goskul'trosvetizdat, 1955  
182 p. illus., graphs, maps.

N/5  
756.1  
.D2



TSUNTS, Mikhail Zinov'yevich; BEREZIN, I.A., red.

[Story of the Great Volga] Rasskaz o Bol'shoi Volge. Moskva, Sovetskaia Rossiia, 1964. 156 p. (MIRA 17:8)

TSUNTS, M.Z.

Three. Priroda 51 no. 11:12-23 N '62.  
(Electric power distribution)  
(Electric power production)

(MIRA 15:11)

TSUNTS, M. Z.  
8(6)

PHASE I BOOK EXPLOITATION

SOV/1892

Davydov, Mitrofan Mikhaylovich, and Mikhail Zinov'yevich Tsunts

Ot Volkhova do Amura (From the Volkhov to the Amur) Moscow, Izd-vo  
"Sovetskaya Rossiya," 1958. 325 p. 20,000 copies printed.

Ed.: Yu. E. Berenson; Tech. Ed.: E.A.Rozen.

PURPOSE: This book is intended for the general reader.

COVERAGE: The authors stress the importance of utilizing the presently existing water system of the USSR, the artificial lakes and the projected canals, for the production of electric power. They explain that only 1.7% of the available water power is being utilized as compared with 25% in USA, 35% in Canada, 43% in France and 71% in Western Germany. They discuss the present state of hydroelectrification in the USSR and describe the projects, now under construction or in planning, for utilizing some of the energy stored in the 2.5 million kilometers of 108,000 Soviet waterways. They provide general information and maps of the All-Union

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From the Volkhov to the Amur

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hydroelectric system and describe the numerous hydroelectric regional systems, such as Central, South, Ural, Caucasus, Northwest, Central Asia, Western Siberia, Eastern Siberia and Far East. The authors also provide detailed maps of individual water systems and their hydroelectric stations, those already in operation and those in various stages of planning or construction. They also mention projects of the distant future, among them the Bering Straits Dam, which not only will supply enormous quantities of electric power to Kamchatka and Alaska, but will also change the climate of the Arctic to a moderate one. No personalities are mentioned. There are no references.

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AVAILABLE: Library of Congress	

Card 4/4

JP/bg  
8-28-59

TSUNTS, M.Z. (Moskva)

Mysteries of an ancient lake. Priroda 51 [i.e. 52] no.5:121  
'63. (MIRA 16:6)

(Issyk-Kul—Antiquities)

1. DAVYDOV, M. M.; TSUNTS, M. Z.; KEDROV, F. B.
2. USSR (600)
4. Russia - Public Works
7. Great structures of the Stalin epoch (survey of literature). M. M. Davydov, M. Z. TSunts, F. B. Kedrov. Priroda 42, No. 4, 1953.
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.



TSUNTS, Mikh.

Victorious step of the seven-year plan. Voen.znan. 37 no. 1:2-3  
Ja '61. (MIRA 14:1)

(Russia--Economic conditions)

TSUNTS, Mikh.

Subjugation of giants. Nanka 1 zhizn' 24 no.5:13-16 My '57.  
(Siberia--Hydroelectric power station) (MIRA 10:6)

TSUNIS, MIKHAIL ZINOV'YEVICH

SN/5  
775.922  
.7811

Velikiye Stroyki Na Reках Sibiri  
(Large Construction Projects on Siberian Rivers)  
Moskva, Gospolitizdat, 1956.  
76 p. Illus., Graphs, maps.

RFA

TSUMTS, MIKHAIL ZINOV'YEVICH

98/5  
935.922  
.T51

Siberia's Hydro-Power Projects.  
Moscow, Foreign Languages Publishing House, 1957.  
47 P. Map, Table.  
Translation of: Velikiye Stroyki Na Reках Sibiri.

CC

*TSUNTS, MIKH* *DL*

25-5-7/35

SUBJECT: USSR/Electrification of Siberia

AUTHOR: Tsunts, Mikh.

TITLE: Subjection of Giants (Pokoreniye gigantov)

PERIODICAL: Nauka i Zhizn' - May 1957, No 5, pp 13-16 (USSR)

ABSTRACT: When the power of Siberia's gigantic rivers, the Angara, Yenisey, Ob, and Irtysh will have been exploited by electric power stations, the whole economic structure of the country will change accordingly. During the 6th five-year plan, several dams across these rivers have already been completed. Each of the aforementioned rivers will have a whole series of electric power stations along its course. Construction of the first hydro-electric power station was begun in 1950 at Irkutsk, and by 1956 it was supplying industrial current. The first dam to cross the Yenisey river is under construction near the city of Krasnoyarsk. On the Ob river, at Novosibirsk, the first of a series of hydro-electric power stations is nearing completion and is expected to yield 400,000 kw. Sufficient electric power will help solve many industrial problems in Central Siberia, where 75 percent of all coal and huge iron ore deposits are found. The goal is to unite the electric

Card 1/2

25-5-7/35

TITLE: Subjection of Giants (Pokoreniye gigantov)  
power sources of the European USSR with those of Central  
Siberia in one single electric power system.  
This article contains two illustrations, one photo, one map.

ASSOCIATION:

PRESENTED BY:

SUBMITTED:

AVAILABLE:

Card 2/2

DAVYDOV, Mitrofan Mikhaylovich; TSUNTS, Mikhail Zinov'yevich; BERENSON,  
Yu.E., red.; ROZEN, E.A., tekhn.red.

[From the Volkhov to the Amur] Ot Volkhova do Amura. Moskva,  
Izd-vo "Sovetskaia Rossiia," 1958. 325 p. (MIRA 12:1)  
(Hydroelectric power stations)

TSUNTS, Mikhail Zinov'yevich; KARAULOV, N.A., doktor tekhnicheskikh nauk,  
redaktor; PETROVA, S., redaktor; TROYANOVSKAYA, N., tekhredaktor

[Great construction projects on the rivers of Siberia] Velikie stroiki  
na rekakh Sibiri. Moskva, Gos. izd-vo polit. lit-ry, 1956. 76 p.

(MLRA 10:1)

(Siberia--Hydroelectric power stations)



TSUNTS, Z.I.

Current status and prospects of the dairy industry in Uzbekistan.  
Izv. AN Uz. SSR no. 9:79-84 '56. (MIRA 14:5)  
(Uzbekistan—Dairy industry)

TSUNTS, Z.I.

Conference on theoretical and practical aspects of the economy  
of collective cotton farms of Uzbekistan. Izv.AN Uz.SSR 3:  
109-111 '56. (MIRA 12:6)  
(Uzbekistan--Agriculture--Economic aspects)

TSUNTS, Z.I.

Economic investigations in the Main Turkmen Canal region. Izv. AN  
Uz.SSR no.1:134-135 '53. (MIRA 11:3)

1. Uchenyy sekretar' Instituta ekonomiki AN UzSSR.  
(Main Turkmen Canal region--Agricultural research)

TSUNTS, Zinovy Izrailevich; POSTOLOV, Iosif Vladimirovich;  
LEBEDEV, S.G., red.

[Wastes of various industries as an important source of  
feed supply in animal husbandry] Otkhody otraslei pro-  
myshlennosti - vazhnyi rezerv kormovoi bazy zhivotno-  
vodstva. Tashkent, Uzbekistan, 1964. 37 p.  
(MIRA 18:4)

COUNTRY : USSR  
 CATEGORY : Cultivated Plants.  
 ABS. JOUR. : RzhBiol., No.23 1958, No. 104738  
 AUTHOR : Tsuda, Y.  
 INST. : Odessa Agricultural Institute  
 TITLE : Biology of Blossoming in wheat Grass.

M

ORIG. PUB. : Tr. Odessk. s.-kh. in-ta, 1957, 9, 30-37

ABSTRACT : In the studies of the biology of the blossoming of wheat grass near Odessa, it was determined that the mass blossoming begins about the 25th of May and continues until the 25th of June. The lower flowers of the middle spikelets begin to blossom first. Higher temperature accelerates blossoming by 2-3 days. The intensity of blossoming during the day varies. With the isolation of the spike, not more than 1.5% of the flowers produce seeds. In hybridization, castration should be performed 1-2 days before blossoming. Supplementary pollination of wheat grass

Card: 1/2

COUNTRY :  
CATEGORY :  
ABS. JOUR. : RZhBiol., No. 1958, No. 104738  
AUTHOR :  
INST. :  
TITLE :  
ORIG. PUB. :  
ABSTRACT : by means of passing a string over the spikes proved to  
be very effective. -- Ye. A. Okorokova

Card: 2/2

77

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S/539/61/000/032/013/017  
D204/D301

1.1800

AUTHORS:

Kudryavtsev, N.T., Tyutina, K.M., Chvankin, I.V. and  
Tsupak, T.Ye.

TITLE:

Electrodeposition of a Sn-Ni alloy from alkaline cyanide  
solutions

SOURCE:

Moscow. Khimiko-tekhnologicheskii institut. Trudy, no. 32,  
1961. Issledovaniya v oblasti elektrokhemii, 283-288

TEXT: A study of the joint deposition of Ni and Sn from stannate solu-  
tions containing additions of complex Ni cyanide. The influence of Ni  
concentration in the solution and of current density,  $D_k$ , on the quality,  
composition and current efficiency of the alloy were studied at 65°, 75°  
and 85°C, depositing the metals on brass or Ti plates. Cathode potentials  
at various  $D_k$ 's were measured during the deposition of the alloy and of  
Sn alone. Alloys with 10-26% Ni could be obtained from solutions con-  
taining 0.12 - 0.6 g Ni/l, 53 g  $Na_2SnO_3$ /l and 10 g NaOH/l, (alloys of

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Electrodeposition of a Sn-Ni ...

S/539/61/000/032/013/017  
D204/D301

20-26% Ni were bright), but the current efficiency fell sharply on increasing the Ni and lowering the Sn content in the electrolyte and at lower temperatures. Thus on increasing Ni from 0.06 to 0.6 g/l at 75°C, at  $D_k = 1 \text{ amp/dm}^2$ , the current efficiency decreased from 65 to 8%.

A proportion of Ni in the deposit rose with increasing Ni content of the solution, but was practically unaffected by changes in temperature or  $D_k$ . Cathode polarization in the deposition of the alloy was more pronounced than during the deposition of Sn alone. The results are discussed in terms of the polarization curves derived for the various processes taking place, concluding that the joint deposition of Ni and Sn facilitates the evolution of  $H_2$  by reducing its overvoltage on the cathode. Passivated Sn anodes or anodes of Sn and an insoluble metal were found suitable and the following conditions are recommended for the deposition of an alloy containing 5-12% Ni: electrolyte composition - Sn (as  $Na_2SnO_3$ ) 30g/l, Ni

(as  $Ni(CN)_2$ ) 0.06 - 0.12 g/l; NaOH 10 g/l, NaCN 0.25 g/l; temperature 75°C;  $D_k$  equal to 1 amp/dm<sup>2</sup>. Analyses of the electrolyte and of the

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Electrodeposition of a Sn-Ni...

S/539/61/000/032/013/017  
D204/D301

deposits are described in some detail. There are 6 figures, 1 table and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: J.W. Cuthbertson, N. Parkinson and H.P. Rooksby, J. Electrochem. Soc., 100, 3, (1953).

✓

Card 3/3

TSUPAK, T. Ye., inzh.; KUDRYAVTSEV, N.T., doktor khimich. nauk;  
OVSYANNIKOVA, L.V., inzh.

Plating with nickel-chromium alloy. Mashinostroenie no.5871-72  
S-O '64 (MIRA 1882)

S/0153/64/001/0124/0089

ACCESSION NR: AP4037230

AUTHOR: Kudryavtsev, N. T.; Tsupak, T. Ye.

TITLE: Investigation of conditions for obtaining a nickel-chromium alloy electrolytically from sulfate solutions of the metals in the presence of glycine.

SOURCE: Izvuz. Khimiya i khimicheskaya tekhnologiya, v. 7, no. 1, 1964, 84-89

TOPIC TAGS: nickel chromium alloy, nickel chromium electroplating, electroplating condition, chromium glycine complex, nickel sulfate, glycine, electrolyte concentration, current yield, pitting, pitting prevention, protective decorative coating, ductility, brittleness, nonmetallic inclusion, corrosion protection, microhardness

ABSTRACT: The conditions for electroplating Ni-Cr alloys from solutions containing trivalent chromium complexed with glycine, nickel sulfate and free glycine were studied in detail. Increasing the nickel concentration (Cr = 1 gm. equiv/l.) at room temperature reduced the Cr content of the alloy to about 7%; and increasing chromium concentration (Ni = 1 gm. equiv/l.) to 2 gm. equivs/l. increased the Cr content to about 17%. Factors which increase the Cr in the alloy (raising the relative Cr concentration in the electrolyte, lowering pH and temperature of the

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ACCESSION NR: AP4037230

electrolyte) lower the current yield. The higher the nickel and chromium concentrations the lesser the effects of these factors. Increasing glycine in the complex from Cr.4G1H to Cr.6G1H has little effect. The optimum conditions for electroplating a Ni-Cr alloy containing 10-16% Cr (17-30% current yield) are: Cr as Cr.4G1H--2 gm.equiv./l; Ni--2 gm.equiv./l; free glycine--0.27 gm.equiv./l; pH 2.5-2.7; electrolyte temperature--30-40C; current density--15-30 amp/dm<sup>2</sup>; graphite anode enclosed in ceramic diaphragm; anolyte--10% H<sub>2</sub>SO<sub>4</sub>; and 0.05 gm/l sodium lauryl sulfate to prevent pitting. These electrodeposits up to 3 microns in thickness can be used as protective decorative coatings without subsequent polishing in place of chromium platings. The 10-16% chromium-containing Ni-Cr deposits of 5 microns thickness are semi-bright, 10 microns deposits are gray but still ductile; and 20 micron deposits are brittle due to nonmetallic inclusions. These 5 micron deposits give corrosion protection equivalent to pure nickel coatings. Their microhardness is 350-450 kg/mm<sup>2</sup>. Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut im. D. I. Mendeleeva  
Kafedra elektrokhemii (Moscow Chemical Technological Institute Electrochemical Department)

Card 2/3

ACCESSION NR: AP4037230

SUBMITTED: 11Mar63

ENCL: 00

SUB CODE: MM

NO REF SOV: 005

OTHER: 007

Card

3/3

KUDRYAVTSEV, N.T.; TSUPAK, T.Ye.; PSHILUSSKI, Ya.B.

Electrolytic deposition of nickel from sulfate-chloride solutions in  
the presence of aminoacetic acid. Trudy MKHTI no.44:80-85 '64.  
(MIRA 18:1)

KUDRYAVTSEV, N.T.; TSUPAK, T.Ya.

Investigating the conditions of the electrolytic production of nickel-chromium alloys from solutions of metal sulfates in the presence of aminacetic acid. Trudy MKHTI no. 4:96-101 '64.

(MIRA 18:1)

L 1323-65 EWT(m)/EWP(t)/EWP(b) 1ad ASD(m)-3/AFTC(p) JD/HW/JG  
 ACCESSION NR: APL047695 S/0304/64/000/005, 0071/0072

AUTHORS: Tsupak, T. Ye. (Engineer); Kudryavtsev, N. T. (Doctor of chemical sciences); Ovsyannikova, L. V. (Engineer) B

TITLE: Nickel-chromium alloy coating 4

SOURCE: Mashinostroyeniye, no. 5, 1964, 71-72

TOPIC TAGS: electroplating, nickel alloy, chromium alloy, metal coating

ABSTRACT: The conditions for electroplating of Ni-Cr alloys from solutions containing trivalent Cr in complicated combinations with glycol were experimentally investigated. Three, 4, and 6 gram-moles of glycol were used for 1 gram-atom of Cr in sulphate, chloride, and mixed solutions at 20-40°C. The percentage of Cr in the deposit and the yield was measured as a function of Ni concentration in the solution, and the properties of the coating were observed as a function of plating thickness. The effects of additives such as ammonia ions were also investigated. It was found that the best electrolyte for plating with Ni-Cr alloys (10-16% Cr) should contain 160 g/ltr chromium sulphate (2n.), 240 g/ltr nickel chloride (2 n.) and 200 g/ltr glycol. The solution should be at 40°C and have a pH of 2.0-2.7. Operation with the above electrolyte over an extended period of time (50 amp-hr/ltr) using a pure Ni anode and 20-30 amp/dm<sup>2</sup> gave a constant yield of 30-32% if

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L 13253-65

ACCESSION NR: APL047695

the pH was periodically corrected. Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 000

OTHER: 000

Card 2/2

KUDRYAVTSEV, N.T.; TSUPAK, T.Ye.

Study of the conditions of the electrolytic production of a nickel-chromium alloy from metal sulfate solutions in the presence of glycine. Izv.vys.ucheb.zav.;khim. i khim. tekhn. 7 no. 1:84-89 '64. (MIRA 17:5)

1. Moskovskiy khimiko-tekhnologicheskii institut im. D.I. Mendeleeva, kafedra elektrokhemii.

TSUPAK, Valerian Fedorovich

[Plant growing] Rastenievodstvo. Leningrad, Kolos,  
1964. 348 p. (MIRA 18:5)

TSUPAK, Valerian Fedorovich, kand.sel'skokhozyaystvennykh nauk; KUL'VA,  
Iraida Fedorovna, kand.sel'skokhozyaystvennykh nauk; SINYAKOVA,  
Lidiya Andreyevna, kand.biol.nauk; VOROB'YEV, F.I., red.; CHUMAYEVA,  
Z.V., tekhn.red.

[Practical laboratory experiments in plant culture] Laboratorno-  
prakticheskie zaniatiya po rastenievodstvu. Moskva, Gos. izd-vo  
sel'khoz. lit-ry, 1957. 255 p. (MIRA 11:4)  
(Plants, Cultivated)

FOMIN, Ye.D., inzh.; TSUPAK, Ye.F., inzh.

Blocking system. Put' i put.khoz. 10 no.1:31 '66.  
(MIRA 19:1)

TSUPIKOV, M.T.

Determination of isoniazid and phthivazid in drugs. Apt. delo  
13 no.3:55-57 My-Je '64. (MIRA 18:3)

TSUPIKOV, M.T.

Determination of tibon in the preparation and in drugs. Apt.  
delo 13 no.4:77-78 J1-Ag '64. (MIRA 18:3)

TSUPIKOV, S., inzh.

Useful advices. Avt. dor. 27 no.7:4 of cover J1 '64.  
(MIRA 17:12)



CHERKASOV, G.I., dotsent; TEUPIKOV, S.G., inzh.

Possibilities for using Sakhalin oxidized petroleum in road  
construction. Sbor. trud. Khab. avt.-dor. inst. no.2:33-88  
'62. (MIRA 18:4)

1. Khabarovskiy avtomobil'no-dorozhnyy institut.

FALOMKIN, I.V.; FILIPPOV, A.I.; KULYUKIN, M.M.; PONTECORVO, B.;  
SHCHERBAKOV, Yu.A.; SUIYAYEV, R.M.; TSUPKO-SITNIKOV, V.M.;  
ZAYMIDOROGA, O.A.; SMIRNOVA, L.A.[translator]; SARANTSEVA,  
V.R., tekhn. red.

Measurement of the  $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$  reaction rate. Dubna,  
Ob"edinennyi in-t iadernykh issledovaniy, 1962. 7 p.  
(No subject heading)

EXCERPTA MEDICA Sec 6 Vol 13/3 Internal Med. Mar 59

1402. CLINICAL PICTURE AND DIFFERENTIAL DIAGNOSIS OF Q-RICKETTSIOSIS (Q-RICKETTSIOSIS AND LEPTOSPIROSIS) (Russian text) - Tsupkevich-Diamant Ya. S. - KLIN. MED. (Mosk.) 1958, 36/6 (77-89)

Tables 1

During the investigation of outbreaks of 'Marsh leptospirosis', cases of Q fever were found with antibodies against both infections. The similar symptomatologies in the early stages of these diseases may lead to erroneous diagnosis, which can be avoided if proper laboratory tests are used. Furthermore, the following symptoms are of particular importance in Q fever: skin rash, haemorrhagic tendency, enlargement of regional lymph nodes, extensive foci in the lungs, and pericarditis.

Anigstein - Galveston, Tex. (L, 6)

1. ALEKSANDROV, A. G.; FALALEYEV, G.D.; TSUPKIN, G.N.

2. USSR (600)

4. Sand, Foundry

7. Molding sand for radiator production., Lit.proiz, No. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

TSUPKIN, YA Z.

TOPCHIEV, A.V., akademik, glavnyy redaktor; PETROV, B.N., otvetstvennyy redaktor; AYZERMAN, M.A., redaktor; BERNISHTEYN, S.I., redaktor; VASIL'YEV, B.V., redaktor; IVANOV, V.I., redaktor; KARAGODIN, V.M., redaktor; KOGAN, B.Ya., redaktor; LETOV, A.M., redaktor; PORTNOV-SOKOLOV, Yu.P., redaktor; SOLODOVNIKOV, V.V., redaktor; ULANOV, G.M., redaktor; TSUPKIN, Ya.Z., redaktor; KRUTOVA, I.N., redaktor; ASTAF'YEVA, G.A., tekhnicheskii redaktor

[A session of the Academy of Sciences of the U.S.S.R. on scientific problems in automatization of production, October 15-20, 1956; principal problems of automatic control] Sessia Akademii nauk SSSR po nauchnym problemam avtomatizatsii proizvodstva, 15-20 oktiabria 1956 g.: osnovnye problemy avtomaticheskogo regulirovaniia i upravleniia. Moskva, 1957. 334 p. (MLRA 10:5)

1. Akademiya nauk SSSR. 2. Chlen-korrespondent AN SSSR. (for Petrov)  
(Automatic control)

TSUPKO, I.N.

New instruments and apparatuses. Priborostroenie no.8:29-31  
Ag '56. (MLRA 9:10)

(Electric instruments)

YUSTOVA, Ye.N., kand. tekhn. nauk; TSUPKO, O.A., inzh.

Calorimetric study of white substances. Svetotekhnika 9  
no.10:7-10 0 '63. (MIRA 16:11)

1. Vsesoyuznyy institut metrologii.

TSUPKO, V.G., dots., kand.tekhn.nauk

Take into consideration the seasonal character of industry.  
Vest.vys.shkoly 16 no.11:18-20 N '58. (MIRA 12:1)

1. Direktor Khar'kovskogo instituta inzhenerov kommunal'nogo  
stroitel'stva. (Building trades--Study and teaching)



SOV/3-58-11-6/38

AUTHOR: Tsupko, V.G., Candidate of Technical Sciences; Dotsent; Institute Director

TITLE: Consider the Seasonal Prevalence of Production (Uchityvat' sezonnost' proizvodstva)

PERIODICAL: Vestnik vysshey shkoly, 1958, Nr 11, pp 18 - 20 (USSR)

ABSTRACT: The author points to difficulties facing the student during his practical training at enterprises and building sites which affect his theoretical training. He refers to the general principles laid down by V.P. Yelutin, USSR Minister of Higher Education, in an article in "Pravda", recommending a system of combined theoretical instruction and practical shop work in the student's speciality. The author approves of this system and points to the necessity of carrying out the students' training at building sites not throughout the entire year, but periodically. He considers it expedient to divide the study at a construction faculty for instance as follows: the first 2½ - 3 years - theoretical training; thereafter 6 months practical experience which is followed

Card 1/2

Consider the Seasonal Prevalence of Production

SOV/3-58-11-6/38

by 4 - 5 months theoretical instruction and another 6 months of practical training. The last, the 6th course, is the final year for completing the student's studies and submitting his graduation thesis.

ASSOCIATION: Khar'kovskiy institut inzhenerov kommunal'nogo stroitel'stva  
(Khar'kov Institute of Municipal Engineers)

Card 2/2

L 58447-65 EMT(m)/T/EMA(m)-2  
ACCESSION NR: AP501385

UR/0056/65/048/005/1267/1278

AUTHOR: Zaynidorova, O. A.; Kulyukin, M. M.; Sulyayev, R. M.; Faloskin, I. V.;  
Filippov, A. I.; Tsupko-Bitnikov, V. M.; Shcherbakov, Yu. A.

TITLE: Study of pion capture by  $\text{He}^3$ . I. Charge exchange and radiative capture.

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 5, 1965,  
1267-1278

TOPIC TAGS: pion capture, helium, charge exchange, radiative capture, Panofsky  
ratio, form factor, relative probability

ABSTRACT: This is a continuation of an earlier paper by the authors (ZhETF v. 44,  
1180, 1963). A high-pressure diffusion chamber operating in a magnetic field was  
used to measure the ratio of the probabilities of charge exchange and radiative  
capture of pions by  $\text{He}^3$  (the Panofsky ratio). The diffusion chamber was described  
elsewhere (PTE No. 1, 69, 1964). The experimental apparatus and the measurements  
are described in detail. The experimental values obtained for the Panofsky ratio  
for  $\text{He}^3$ , together with the calculations of B. V. Struminskiy (Preprint OIYaI,  
E-1012; Proc. 1962 Intern. Conf. on High Energy Physics at CERN p. 17), is used to

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L 58447-65  
ACCESSION NR: AP501385

10  
determine the nuclear form factor and the mean square nuclear radius corresponding to the distributions of the centers of the nucleons. The value of the Panofsky ratio is  $2.28 \pm 0.18$ , that of the nuclear form factor is  $F^2 = 0.75 \pm 0.06$  (for a momentum transfer  $q^2 = 0.47 F^{-2}$ ), and the relative probabilities of charge exchange and radiative capture are found to be  $W(H^3n^0) = (15.8 \pm 0.8)\%$  and  $W(H^3\gamma) = (6.9 \pm 0.5)\%$ . "The authors thank B. Pontecorvo and B. V. Shraminskiy for a discussion of the results, and A. G. Zhukov, N. V. Lebedev, V. I. Orehov, V. F. Poyenko, A. G. Potekhin, A. I. Tokarskaya and Ye. A. Shvaneva for assistance with the measurements and experiments." Orig. art. has: 6 figures, 10 formulas, and 5 tables.

ASSOCIATION: Ob"edinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: 30Dec64

ENCL: 00

SUB CODE: NF

NR REF SOV: 003

OTHER: 004

487  
Card 2/2

ZAYMIDROGA, G.A.; KULYUKIN, M.M.; SULTAYEV, R.M.; PALOMKIN, I.V.;  
FILIPPOV, A.I.; TSUPKO-SITNIKOV, V.M.; SHCHERBAKOV, Yu.A.

Study of pion capture by  $\text{He}^3$ . Part 1. Zhur. eksp. i teor  
fiz. 48 no.5:1267-1278 My '65. (NERA 18:7)

1. Ob"yedinennyy institut yadernykh issledovaniy.

ZAYMIDOROGA, O.A.; STRUMINSKIY, B.V.; SULTAYEV, R.M.; FALOMKIN, I.V.;  
TSUPKO-SITNIKOV, V.M.; SHCHERBAKOV, Yu.A.

Nuclear form factors in muon capture by  $\text{He}^3$ . Zhur. eksp. i teor.  
fiz. 48 no.6:1594-1597 Je '65. (MIRA 12:7)

1. Ob'yedinennyy institut yadernykh issledovaniy.

**"APPROVED FOR RELEASE: 04/03/2001**

**CIA-RDP86-00513R001757210012-5**

**APPROVED FOR RELEASE: 04/03/2001**

**CIA-RDP86-00513R001757210012-5"**

**"APPROVED FOR RELEASE: 04/03/2001**

**CIA-RDP86-00513R001757210012-5**

**APPROVED FOR RELEASE: 04/03/2001**

**CIA-RDP86-00513R001757210012-5"**



NR REF SQ: 001

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Card 3/3

ZAYMIDOROGA, O.A.; KULYUKIN, M.M.; PONTEKORVO, B.; SULYAYEV, R.M.; FILIPPOV, A.I.; TSUPKO-SITNIKOV, V.M.; SHCHERBAKOV, Yu.A.

Observation of the reaction  $\mu^- + \text{He}^3 \rightarrow \text{He}^3 + \nu$ . Zhur. eksp. i teor. fiz. 41 no.6:1804-1808 D '61. (MIRA 15:1)

1. Ob"yedinennyy institut yadernykh issledovaniy.  
(Nuclear reactions)

ZAYMIDOROGA, O.A.; KULYUKIN, M.M.; PONTEKORVO, B.; SULTAYEV, R.M.; FAIOMKIN,  
I.V.; FILIPPOV, A.I.; TSUPKO-SITNIKOV, V.M.; SHCHERBAKOV, Yu.I.

Probability of the reaction  $\mu + \text{He}^3 \rightarrow \text{H}^3 + \gamma$ . Zhur. eskp. i  
teor. fiz. 43 no.1:355-358 J1 '62. (MIRA 15:1)

1. Ob"yedinennyy institut yadernykh issledovaniy.  
(Nuclear reactions)

S/0120/64/000/001/0069/0075

ACCESSION NR: AP4018367

AUTHOR: Aleksandrov, G. M.; Zaymidoroga, O. A.; Kulyukin, M. M.;  
Peshkov, V. P.; Sulyayev, R. M.; Filippov, A. I.; Tsupko-Sitnikov, V. M.;  
Shcherbakov, Yu. A.

TITLE: Use of helium-3 for filling a high-pressure diffusion chamber

SOURCE: Priory i tekhnika eksperimenta, no. 1, 1964, 69-75

TOPIC TAGS: diffusion chamber, helium-3 tritium separation, high pressure  
diffusion chamber, synchrocyclotron, OIYaI synchrocyclotron, high purity helium-3

ABSTRACT: A method of highly purifying helium-3 from tritium ( $10^3/10^6 < 10^{-10}$ ) is described. Helium-3 condensation with subsequent evaporation at 1.2 K was used. The cycle was repeated 4 times; a small amount of  $H_2$  (about 0.005%) was added prior to every liquefaction. The source gas contained 0.1% of  $H^3$  and 0.5-1% of  $H^1$ , D, N, O, and A. The final elimination of  $H_2$  was attained by burning it with copper oxide heated to 500C. The internal parts of the DK-2 standard diffusion chamber (see M. S. Kozodayev, et al., PTE, 1958, no. 6, p. 47) were remodeled; its volume, about 11 lit., was filled with helium-3 up to 20 atm; equipment and

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ACCESSION NR: AP4018367

Filling details are given. The chamber was in continuous (500 hrs) operation with the OIYaI synchrocyclotron. It can be filled within 5 hrs. Gas loss at each exposure has been 0.1% or less. "The authors are deeply grateful to P. L. Kapitsa for his permission to separate He<sup>3</sup> from T in IFP AN SSSR, and to V. M. Kuznetsov and A. I. Filimonov for lending the equipment and their help in determining T concentrations. We are also thankful to V. P. Dzhelepov and L. I. Lapidus for their interest in the project, and to K. A. Baycher and S. F. Maly\*sheva for their help in building the outfit. Mounting was performed by A. G. Zhukov, P. Ye. Laykov, N. V. Lebedev, V. I. Orekhov, V. F. Poyenko, A. G. Potekhin, and A. I. Chernetskiy, for which we thank them. We would particularly like to acknowledge the discussions as well as the active help of B. Pontecorvo throughout the project stages." Orig. art. has: 4 figures.

ASSOCIATION: Ob"yedinenny\*y institut yaderny\*kh issledovaniy (Joint Institute of Nuclear Studies)

SUBMITTED: 23Feb63

DATE ACQ: 18Mar64

ENCL: 00

SUB CODE: NS

NO REF SOV: 006

OTHER: 005

Card 2/2

ZAYMIDOROGA, O.A.; KULYUKIN, M.M.; SULYAYEV, R.M.; FILIPPOV, A.I.;  
TSUPKO-SITNIKOV, V.M.; SHEHERBAKOV, Yu.A.

Formation of mesic helium atoms in a mixture of gaseous  
hydrogen and helium. Zhur. eksp. i teor. fiz. 44 no.6:1852--  
1858 Je '63. (MIRA 16:6)

1. Ob"yedinennyy institut yadernykh issledovaniy.  
(Mesons) (Cloud chamber)

L 14307-63

ENF(q)/ENT(m)/BDS AFFTC/ASD JD/JG

ACCESSION NR: AF3003110

S/0056/63/044/005/1852/1858

AUTHOR: Zaymidoroga, O. A.; Kulyukin, M. M.; Sulyayev, R. M.; Filipov, A. I.;  
Tsupko-Sitnikov, V. M.; Shcherbakov, Yu. A.

TITLE: Formation of helium mesic atoms in a hydrogen-helium gas mixture

SOURCE: Zhurnal eksper. i teor. fiziki, v. 44, no. 6, 1963, 1852-1858

TOPIC TAGS: helium mesic atom formation, helium, hydrogen, direct attachment, muon transfer

ABSTRACT: The formation of helium mesic atoms in a mixture of helium and hydrogen was studied in a diffusion cloud chamber at 19 atmospheres pressure. The experiment was performed to clarify the roles of the two possible mechanisms of helium mesic atom formation in a H-He mixture, direct attachment or via muon transfer, and as a check on an experimental procedure which permits the use of relatively small amounts of helium. The diffusion chamber was exposed to a beam of negative mesons with initial momentum 170 MeV/c from the synchrocyclotron of OIYaI. Both He sup 3 and He sup 4 were used, with nuclear concentrations 14.3 and 4.9 %, respectively. The probability of the capture of muons by helium from a hydrogen mesic atom in the ground state was found to be at least three orders of magnitude smaller than the probability of capture by carbon or oxygen nuclei,

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L 14307-63

ACCESSION NR: AP3003110

6

and cannot appreciably exceed 1 million per second, in agreement with the retical estimates made by S. S. Gershteyn (ZhETF v. 43, 706, 1962). Agreement with the Fermi-Teller "Z-law" was indicated for direct attachment of mesons to nuclei in the gas mixture. "The authors are deeply indebted to S. S. Gershteyn, P. F. Yermolov, and B. Pontecorvo for numerous valuable discussions, and to A. I. Tokarskaya and Ye. A. Shvaneva for assistance with the measurements." Orig. art. has: 2 figures, 10 formulas, and 4 tables.

ASSOCIATION: Ob"yedinenny\*y institut yaderny\*kh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: 23Jan63

DATE ACQ: 23Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 003

OTHER: 009

Card 2/2



1964/1965/1966/1967/1968/1969/1970

Authors: G. A. Kulyukin, M. M.;  
Kulyayev, G. M.; Philippov, A. I.; Tsupko-Sitnikov, V. M.

Helium-3 for filling a high-pressure diffusion chamber

1964, Tekhnika eksperimenta, no. 1, 1964, 69-75

Diffusion chamber, helium-3 tritium separation, high pressure,  
synchrocyclotron, OYAI synchrocyclotron, high purity helium-3

Method of highly purifying helium-3 from tritium ( $H^3/H^2 < 1 \cdot 10^{-4}$ )

Helium-3 condensation with subsequent evaporation at 1.2 K was used.  
The cycle was repeated 4 times; a small amount of  $H_2$  (about 0.005%) was added  
to every liquefaction. The source gas contained 0.1% of  $H^3$  and 0.5-1% of  
 $H^2$ ,  $H^1$ ,  $O$ , and  $A$ . The final elimination of  $H_2$  was attained by burning it with  
copper oxide heated to 500C. The internal parts of the DK-2 standard diffusion  
chamber (see M. S. Kozodayev, et al., PTE, 1958, no. 6, p. 47) were remodeled;  
the volume, about 11 lit., was filled with helium-3 up to 20 atm; equipment and

6-1/2

ACCESSION NR: AP4018367

S/0120/64/000/001/0069/0075

AUTHOR: Aleksandrov, G. M.; Zayanderoga, O. A.; Kulyukin, M. M.;  
Pashkov, V. P.; Suiyayev, R. M.; Filippov, A. I.; Tsupko-Sitnikov, V. M.;  
Shchegolev, Yu. A.

TITLE: Use of helium-3 for filling a high-pressure diffusion chamber

SOURCE: Pribury i tekhnika eksperimenta, no. 1, 1964, 69-75

TOPIC TAGS: diffusion chamber, helium-3 tritium separation, high pressure  
diffusion chamber, synchrocyclotron, OIYaI synchrocyclotron, high purity helium-3

ABSTRACT: A method of highly purifying helium-3 from tritium (HP/He-3) is described. Helium-3 condensation with subsequent evaporation at 1.2 K was used. The cycle was repeated 4 times; a small amount of  $H_2$  (about 0.005%) was added prior to every liquefaction. The source gas contained 0.1% of  $H^3$  and 0.5-1% of  $H_2$ , D, N, O, and A. The final elimination of  $H_2$  was attained by burning it with copper oxide heated to 500C. The internal parts of the DK-2 standard diffusion chamber (see M. S. Kozodayev, et al., PTE, 1958, no. 6, p. 47) were remodeled; its volume, about 11 lit., was filled with helium-3 up to 20 atm; equipment and

Card 1/2

S/056/63/044/004/011/041  
B102/B186

AUTHORS: Zaymidoroga, O. A., Kulyukin, N. M., Sulyayev, R. M.,  
Falomkin, I. V., Filippov, A. I., ~~Tsupko-Sitnikov, V. M.~~,  
Shoherbakov, Yu. A.

TITLE: The Panofsky ratio for  $\text{He}^3$  and the root-mean-square radius  
for the  $\text{He}^3 \rightarrow \text{H}^3$  transition

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41,  
no. 4, 1963, 1180 - 1183

TEXT: The capture of  $\pi^-$  by  $\text{He}^3$  was theoretically investigated, and was  
effected in the following processes which are allowed from the standpoint  
of conservation laws:

- I.  $\pi^- + \text{He}^3 \rightarrow p + n + n$  (55,5%)
- II.  $\pi^- + \text{He}^3 \rightarrow n + d$  (27,8%)
- III.  $\pi^- + \text{He}^3 \rightarrow \text{H}^3 + \pi^0$  (9,4%)
- IV.  $\pi^- + \text{He}^3 \rightarrow \text{H}^3 + \gamma$  (4,8%)
- V.  $\pi^- + \text{He}^3 \rightarrow d + n + \gamma$  (2,0%)
- VI.  $\pi^- + \text{He}^3 \rightarrow p + n + n + \gamma$  (0,5%)

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S/056/63/044/004/011/044  
B102/B186

The Panofsky ratio for...

Now the capture of  $\pi^-$  mesons stopped in  $\text{He}^3$  could be observed for the first time in the reactions III and IV. B. V. Struminskiy has shown (Preprint OIYaI, E-1012, Dubna, 1962), that the probability ratio (Panofsky ratio P) of these reactions is related with the r.m.s. radius  $r$  of the  $\text{He}^3$ - $\text{H}^3$  transition in radiative processes by

$$P = \frac{P_H}{1 - \frac{1}{16}k^2r^2 + \frac{1}{16}k^4r^4} \frac{\omega + M}{\omega_\mu + m} \frac{\omega_H}{\omega} \left[ \frac{E}{E_H} \frac{M}{m} \frac{(\mu + m)^2}{(\mu + M)^2} \right]^{1/2}, \quad (1);$$

$k$  is the wave number of the photon in IV,  $\omega$  the photon energy in IV,  $m$  the neutron mass,  $\mu$  the  $\pi^0$  mass,  $M$  the tritium mass,  $E$  the energy released in III; the quantities with the subscript H refer to  $\pi^- + p$  processes. The experiments were made with a  $\text{He}^3$ -filled diffusion chamber (20 atm) placed in a magnetic field of 6 koe. Among the 2372 photographs of pion stops in  $\text{He}^3$  the processes III and IV were singled out according to the ranges of the particles involved. The relative probabilities of III and IV were  $W_3 = (13.5 \pm 0.9)\%$  and  $W_4 = (6.2 \pm 0.7)\%$ . The Panofsky ratio was obtained as:  $P = 2.16 \pm 0.28$ , and from this  $r$  could be calculated:  $r = (1.24^{+0.30}_{-0.46}) \cdot 10^{-13} \text{ cm}$ , which is in close agreement with the value calculated by C. Werntz (Nucl. Card 2/3

The Panofsky ratio for...

S/056/63/044/004/011/04  
B102/B186

Phys. 16, 59, 1960). The yields of III and IV were found to be somewhat higher than those predicted by Messiah (Phys. Rev. 87, 639, 1952). There are 2 figures.

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: November 16, 1962

Card 3/3

ALEKSEYEV, G.M.; ZAYMIDOROGA, O.A.; KULYUKIN, M.M.; PESHKOV, V.P.;  
SULYAYEV, R.M.; FILIPPOV, A.I.; TSUPKO-SITNIKOV, V.M.;  
KHOMERBAKOV, Yu.A.

Use of helium-3 for filling a high-pressure diffusion chamber.  
Izvestiya Akad. Nauk SSSR Tekhn. Eksp. 9 no.1:69-75 Ja-F '64. (MIRA 17:4)

1. Ob"yedinennyy institut yadernykh issledovaniy.

ZAYMIDOROGA, O.A.; KULYUKIN, M.M., PONTEKORVO, B.; SULYAYEV, R.M.;  
FALOMKIN, I.V.; FILIPPOV, A.I.; TSUPKO-SITNIKOV, V.M.;  
SHCHERBAKOV, Yu.A.

Measurement of the total probability of muon capture in  $\text{He}^3$ .  
Zhur. eksp. i teor. fiz. 45 no.6:1803-1807 D '63. (MIRA 17:2)

1. Ob'yedinennyy institut yadernykh issledovaniy.

TSUPKO-SITNIKOV, V.M.

31775

S/056/61/041/006/021/054  
B102/B138

24.6600

AUTHORS: Zaymidoroga, O. A., Kulyukin, M. M., Pontekorvo, B.,  
Sulyayev, R. M., Filippov, A. I., Tsupko-Sitnikov, V. M.,  
Shcherbakov, Yu. A.

TITLE: Observation of the reaction  $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41,  
no. 6(12), 1961, 1804-1808

TEXT: The probability of slow  $\mu^-$ -meson capture by  $\text{He}^3$  is known from highly accurate theoretical calculations. From probability measurements of the reaction  $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$  the muon-nucleon interaction constant can be determined and the results compared with those of the weak interaction theory. From the tritium energy in this process the upper limit of the neutral particle mass emitted in muon capture can be estimated and the probability of the process  $\mu^- + \text{p} \rightarrow \text{n} + \nu$ , not yet observed with certainty, can be determined. The first results of investigation of muon capture by  $\text{He}^3$  are dealt with. A diffusion chamber filled with pure (99.999%)  $\text{He}^3$  at Card 1/4



31775

S/056/61/041/ 06/021/054  
B102/B138

Observation of the reaction ...

20 atm, was placed in a field of 6000 oe and exposed to a muon beam (momentum 217 Mev/c) from the synchrocyclotron of the OIYaI. The methyl alcohol pressure in the sensitive layer of the chamber was less than 50 mm Hg, the tritium content of the gas used was  $10^{-15}$ . A copper filter was put in the chamber to slow down the mesons and eliminate the pions. The chamber was carefully shielded from thermal neutrons. To date, about 6000 photographs have been taken of events where the muon path stopped at a  $\text{He}^3$  nucleus. The reactions sought were identified by the energy of the tritium nucleus. From the pion admixture 1200 stars were observed. The admixture was determined to  $\sim 2\%$ , causing  $\pi^- + \text{He}^3 \rightarrow \text{H}^3 + \pi^-$  reactions. 14 events of the  $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$  reaction were identified, the mean tritium range was

$2.37 \pm 0.02 \text{ mg/cm}^2$ . The upper limit of the neutral particle emitted in muon capture was estimated: With 99% probability its mass is less than 6 Mev. The charged particle masses were:  $m_{\text{He}^3} = 2808.22 \text{ Mev}$ ,  $m_{\text{H}^3} = 1808.75 \text{ Mev}$ ,  $m_{\mu} = 105.65 \text{ Mev}$ . The probability of reaction (1) was  $(1.30 \pm 0.40) \cdot 10^3 \text{ sec}^{-1}$ . The value calculated by Wolfenstein on the basis of the theory of universality

Card 2/4

31775

S/056/61/041/006/021/054  
B102/B138

Observation of the reaction ...

weak interaction was  $(1.54 \pm 0.08) \cdot 10^3 \text{ sec}^{-1}$ . The constant of vectorial  $\mu$  interaction was estimated roughly: With a probability of 90%,

$|\langle \sigma_V | \langle 2 | \sigma_A |$ . The authors thank P. L. Kapitsa, V. P. Peshkov, V. M. Kuznetsov and A. I. Filimonov for the purification of the  $\text{He}^3$  from  $\text{H}^3$  carried out in the IFP AN SSSR, S. S. Gershteyn for discussions, V. P. Dzhelepov, L. I. Lapidus for interest and G. M. Aleksandrov, V. V. Kuznetsov, N. V. Lobedev, V. I. Orekhov, V. P. Poyenko, A. G. Potekhin, D. B. Pontekorvo and I. V. Falomkin for experimental help. There are 2 figures and 12 references: 4 Soviet and 8 non-Soviet. The four most recent references to English-language publications read as follows: S. Weinberg. Phys. Rev. Lett. 4, 575, 1960; J. C. Fetkovich et al. Phys. Rev. 118, 319, 1960; E. J. Maier et al. Phys. Rev. Lett. 6, 417, 1961; L. Wolfenstein. Proc. of the 1960 Ann. Int. Conf. on High Energy Phys. of Rochester, Univ. of Rochester, 1960, p. 529; Bull. Amer. Phys. Soc., 6, 33, 1961.

Card 3/4

Observation of the reaction ...

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: July 25, 1961

33775  
S/056/61/041/006/021/054  
B102/B138

Card 4/4

ZAYMIDOROGA, O.A.; KULYUKIN, M.M.; SULTAYEV, R.M.; FALOMKIN, I.V.; FILIPPOV, A.I.;  
TSUPKO-SITNIKOV, V.M.; SHCHERBAKOV, Yu.A.

Panofsky ratio for  $\text{He}^3$  and the RMS radius for the  $\text{H}^3\text{-H}^3$  transition.  
Zhur. eksp. i teor. fiz. 44 no.4:1180-1183 Ap '63. (MIRA 1.6:4)

1. Ob'yedinennyy institut yadernykh issledovaniy. (Meson---Capture)  
(Helium) (Nuclear reactions)

ZAYMIDOROGA, O.A.; KULYUKIN, M.M.; PONTEKOROVO, E.; SULTAYEV, R.M.;  
FALOMKIN, I.V.; FILIPPOV, A.I.; TSUPKO-SITNIKOV, V.M.; SHCHERBAKOV, Yu.A.

Measuring the probability of the reaction  $\mu - \text{He}^3 \rightarrow \text{H}^3 + \text{N}$ ;  
final results. Zhur. eksp. i teor. fiz. 44 no.1:389-390 Ja '63.  
(MIRA 16:5)

1. Ob'yedinennyy institut yadernykh issledovaniy.  
(Nuclear reactions)

FALOMKIN, I.V., FILIPPOV, A.I., KULYUKIN, M.M., PONTECORVO, B.M., SCHERBAKOV, Yu.A.,  
SULYAYEV, R.H., TSUPKO-SITNIKOVA, V.M., ZATSEPIN, O.A.

"Muon-Nucleon Interaction Constants and Muon Capture in  $He^3$ "

report presented at the Intl. Conference on High Energy Physics, Geneva,  
4-11 July 1962

Joint Institute for Nuclear Research  
Laboratory of Nuclear Problems

*TSUPKO-SITNIKOV, V.M.*

PALOMKIN, I. V., FILIPPOV, A. I., KILYUKIN, M. M., Yu. A. SOROKIN, A. V.,  
TSUPKO-SITNIKOV, V.M., and ZABELOVA, O. A.

" $\eta^-$ -Meson Capture in  $HE^3$ "

report presented at Intl. Conference on High Energy Physics, Geneva,  
4-11 July 1962

Joint Institute for Nuclear Research  
Lab. of Nuclear Problems

2  
B/056/63/044/001/067/067  
B102/B186

AUTHORS: Zaymidoroga, O. A., Kulyukin, M. M., Pontekorvo, B.,  
Sulyayev, R. M., Palomkin, I. V., Filippov, A. I.,  
Tsapko-Sitnikov, V. M., Shcherbakov, Yu. A.

TITLE: Measurement of the  $\mu^- + \text{He}^3 \rightarrow \text{He}^4 + \nu$  reaction probability.  
Final results

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44,  
no. 1, 1963, 389 - 390

TEXT: The  $\mu^- + \text{He}^3$  reaction probability was determined from about 200 events  
observed in a  $\text{He}^3$  diffusion chamber. Experimental method, and the scanning  
and evaluation procedures used were the same as those described in ZhETF,  
43, 355, 1962. The final experimental result is

$\Lambda_{\text{He}^3} = (1.41 \pm 0.14) \cdot 10^3 \text{ sec}^{-1}$ . It agrees with the previously published  
one which was calculated from the data of 90 events. There is 1 table.

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy (Joint Institute  
of Nuclear Research)  
Card 1/2



FILIPPOV, A.I.; KULYUKIN, M.M.; PONTECORVO, B.; SHCHERBAKOV, Yu.A.;  
SULYAYEV, R.M.; TSUPKO-SPTNIKOV, V.M.; ZAYMIDOROGA, O.A.

Observation of the reaction  $\mu^- + \text{He}^3 \rightarrow \text{H}^2 + \nu$ . Dubna, Izdatel'skii  
otdel Ob"edinennogo in-ta iadernykh issledovani, 1961. 9 p.  
(No subject heading)

FALONKIN, I.V., FILIPPOV, A.I., FULYMIN, R.M., FOMIN, D.M., SCHERBAKOV, Yu.A.,  
SULYAYEV, R.H., TSURKO-SUTCHIEV, V.M., ZAKHAROVA, O.I.

"Muon-Nucleon Interaction Constants and Muon Capture in  $He^3$ "

report presented at the Intl. Conference on High Energy Physics, Geneva,  
4-11 July 1962

Joint Institute for Nuclear Research  
Laboratory of Nuclear Problems

+TSUPKO-SITNIKOV, V.M.

24.6700

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Tsouko-Sitnikov, V. M., Shoherbakov, Yu. A.

TITLE:

Measurement of the probability of the  $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$  reaction

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,  
no. 1(7), 1962, 355-358

TEXT: The  $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$  -reaction probability was measured in order to study the symmetry of the muon and electron interactions with nucleons. The method used is that described in ZhETF, 41, 1805, 1961. A diffusion chamber filled with  $\text{He}^3$  gas (20 atm) in a field of 6 koe was exposed to a muon beam (217 Mev/c) from the synchrocyclotron of the Laboratoriya yadernykh problem OIYaI (Laboratory of Nuclear Problems of the OIYaI), a copper filter being used to moderate the muons. Some  $10^5$  photographs were taken. The total number of captures and  $\mu$ -e decay events was determined from the spectrum of the visible secondary tracks of tritium stars and also from the spectrum of the ranges of the stopped secondary

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particles. The two spectra agree, each having two peaks: a higher peak at ranges of 2.0 - 2.6 mg/cm<sup>2</sup> corresponding to the reaction  $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$ , and a smaller one at 5.3-5.9 mg/cm<sup>2</sup> corresponding to  $\pi^- + \text{He}^3 \rightarrow \text{He}^3 + \pi^-$ . The probability of the muon capture was found to be

$(\Lambda_{\text{He}^3})_{\text{exp}} = (1.36 \pm 0.18) \cdot 10^3 \text{ sec}^{-1}$ , as against which Wolfenstein (Bull. Am. Phys. Soc. 6, 33, 1961) had calculated  $(\Lambda_{\text{He}^3})_{\text{theor.}} = 1.54 \cdot 10^3 \text{ sec}^{-1}$  using the theory of universal vectorial interaction. The result speaks in favor of this theory, and the muon - electron symmetry in nucleon interactions on which the universal theory is based agrees with the experiment (13% accuracy). An estimate of the Fermi and Gamow-Teller constants ( $G_F$  and  $G_G$ ) of this reaction results in  $G_F < 0.1$ ,

$G_F = -(0.8^{+0.4}_{-0.7}) G_G$  which is in agreement with the theory of universal V-A interaction. There are 2 figures.

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ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy  
(Joint Institute of Nuclear Research)

SUBMITTED: May 30, 1962

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TSUPOR, Sergey Fedorovich; KUNETSKIY, V., red.; SHLYK, M., tekhn.  
red.

[Matriculation test]Ekzamen na zrelost'. Moskva, Mosk.  
rabochii, 1961. 38 p. (MIRA 15:8)  
(State farms)

GERO, S.; FARKAS, K.; GERGELI, I.; YAKAB, I.; CHEKELI, I.; VIRAG, S.;  
TSUPPON, A.

Preventive effects of  $\beta$ -lipoprotein immunization in the development  
of experimental cholesterol atherosclerosis. Vest.AMN SSSR 16 no.3:  
20-27 '61. (MIRA 14:7)

1. 3-ya Meditsinskaya klinika Budapeshtskogo universiteta, Otdel  
patologii Budapeshtskogo gosudarstvennogo revmatologicheskogo  
instituta. (ARTERIOSCLEROSIS) (LIPOPROTEINS)

TSUPRIK, R.; SHAVEL'SKAYA, T., red.; YURGANOVA, M., tekhn.red.

[What to read about Chita Province; list of recommended literature] Chto chitat' o Chitinskoj oblasti; rekomendatel'nyi ukazatel' literatury. Chita, Chitinskoe knizhnoe izd-vo, 1959. 166 p. (MIRA 12:12)  
(Bibliography--Chita Province) (Chita Province--Bibliography)



107-12-2"/46

AUTHOR: Tsuprikov, A. (Krasnodar)

TITLE: Universal Thermotongs (Universal'nyye termokleshchi)

PERIODICAL: Radio, 1956, №12, pp. 30-31 (USSR)

ABSTRACT: A description of a new device for soldering the wires and fusing the polychlorvinyl coating of a simple insulated cable.

The self-made "thermotongs" consist of two steel jaws with a detachable soldering bit which can be heated by burning of a usual thermal cartridge.

It is claimed that 3 to 4 minutes are enough for making a complete 1-wire chlorvinyl cable joint. Cables handled are: ПРБПМ-0,8 and ПРБПМ-1,2.

The tongs were displayed at the 13th All-Union Exhibition of Radio Hams' Constructions. They save time and material used for insulating a joint. There are 3 figures in the article.

AVAILABLE: Library of Congress

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~~TSUPRIKOV, A.Ye., inzh.~~

Use PRVPA and PTVZH cables for rural radio and telephone  
installation. Vest.sviazi 17 no.8:11-12 Ag '57. (MIRA 10:10)

1.Laboratpriya Krasnodarskoy direktsii radiotranslyatsionnykh  
setsey.

(Electric cables)

*TSUPRIKOV, A.Ye.*  
TSUPRIKOV, A.Ye., inzh.

Device for testing the quality of splices of cables with polyvinyl chloride insulation. Vest.sviazi 18 no.1:29 Ja '58. (MIRA 11:1)

1.Laboratoriya Krasnodarskoy direktsii radiotranslyatsionnykh setey.

(Cables--Testing)

TSUPRIKOV, A.

~~TSUPRIKOV, A.~~ PRVPA and PTVZh cables for underground line. Radio no.10:  
30 '56. (MLRA 9:11)

(Electric cables)